Service Manual

Pioneer

RENAULT

ORDER NO.
CRT2338

SYSTEM CONTROL

SCU-2156ZRN2 X1BES

● **This additional service manual is designed to be used together with Model SCU-2156ZRN/EW Service Manual CRT1681. Refer to it for finding parts numbers and adjustment,etc. which are not shown in this manual.**

VEHICLE	DESTINATION	PRODUCED AFTER	PART No.	ID No.	PIONEER MODEL No.
ESPACE	CENTRAL/SOUTH AMERICA	MAY 1999	6025 31 6458	———	SCU-2156ZRN2/X1BES

EXPLODED VIEWS AND PARTS LIST

PACKING (Page 30)

● **PACKING SECTION PARTS LIST**

*: Non Spare Part

Mark	No.	Description	Part No. SCU-2156ZRN/EW	Part No. SCU-2156ZRN2/X1BES
	1	Polyethylene Bag	CEG-162	UEG-012
	2	Protector	CHP1723	Not used
	3	Protector	CHP1844	Not used
	4	Protector	CHP1845	Not used
*	5	Protector	CHP1857	Not used
	6	Contain Box	CHL3075	UHD-035

EXTERIOR (Page 28)

● **EXTERIOR SECTION PARTS LIST**

Mark	No.	Description	Part No. SCU-2156ZRN/EW	Part No. SCU-2156ZRN2/X1BES
	9	Tuner Amp Unit	CWM3726	UWM6597
	10	Equalizer Unit	CWM3733	UWM3733
	23	FM Unit	CWE1437	CWE1540
	30	FM Front End	CWB1074	CWB1070
		Case	CNC5857	Not used

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PIONEER ELECTRONICS ASIACENTRE PTE.LTD. 253 Alexandra Road, #04-01, Singapore 159936

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K-ZZB. MAY. 1999 Printed in Japan

ELECTRICAL PARTS LIST(Page 10)

Equalizer Unit

Symbol and Description	Part No.	
	SCU-2156ZRN/EW	SCU-2156ZRN2/X1BES
C 253	CKSQYB183K25	CKSQYB183K50
C 254	CKSQYB183K25	CKSQYB183K50

Tuner Amp Unit

Symbol and Description		Part No.	
		SCU-2156ZRN/EW	SCU-2156ZRN2/X1BES
IC 502	HIC Module	CWV1065	Not used
IC 701	IC	PD4528C	PE5081A
Q 508	Transistor	2SC2712	Not used
D 506	Diode	MA3047(M)	Not used
L 601	Inductor	LPSQ2R2K	Not used
X 501	Cystal 4.5MHz	CSS1011	CSS1077
VR 501	Semi-fixed 2.2kΩ(B)	CCP1150	Not used
	FM Unit	CWE1437	CWE1540
R 512		RS1/10S222J	RS1/10S0R0J
R 513		RS1/10S222J	RS1/10S472J
R 537,539		RS1/10S102J	Not used
R 538,549		RS1/10S151J	Not used
C 512		CEASR47M50	Not used
C 523		CEAS100M50	Not used
C 524		CEASR22M50	Not used
C 525		CKSQYB103K50	Not used
C 651-653,780,781		CKSQYF104Z25	CKSQYB104K50
C 761,762		CKSQYB183K25	CKSQYB183K50
C 765,766		CKSQYF224Z25	CKSQYB224K16
C 878,879		CKSQYB104K16	CKSQYB104K50

Unit Number: CWE1540
Unit Name : FM Unit

MISCELLANEOUS

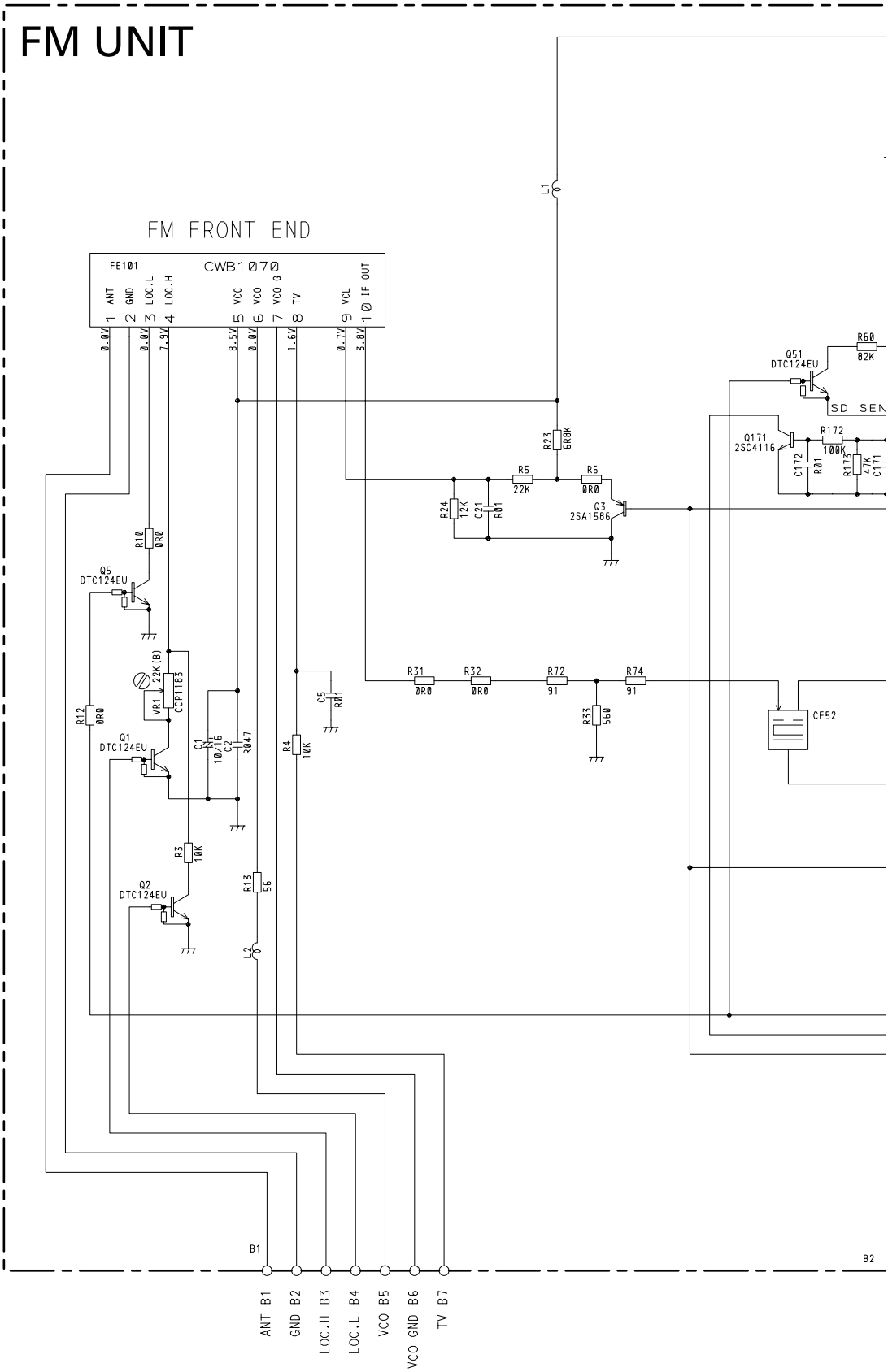
Circuit Symbol and No.		Part Name	Part No.
IC	51	IC	PA4021A
Q	1	Transistor	DTC124EU
Q	2	Transistor	DTC124EU
Q	3	Transistor	2SA1586
Q	5	Transistor	DTC124EU
Q	51	Transistor	DTC124EU
Q	123	Transistor	2SC4116
Q	171	Transistor	2SC4116
L	1	Ferri-Inductor	LAU150K
L	2	Inductor	LCTBR33K2125
L	51	Ferri-Inductor	LAU150K
L	101	Inductor	LCTA102J4532
T	51	Coil	CTC1071
TH	51	Thermistor	CCX1024
TH	102	Thermistor	CCX1015
CF	52	Ceramic Filter	CTF-182
CF	53	Ceramic Filter	CTF-182
X	151	Ceramic Resonator 456kHz	CSS1055
VR	1	Semi-fixed 22kΩ(B)	CCP1183
VR	51	Semi-fixed 10kΩ(B)	CCP1181
VR	101	Semi-fixed 68kΩ(B)	CCP1186
VR	102	Semi-fixed 33kΩ(B)	CCP1184
VR	103	Semi-fixed 1kΩ(B)	CCP1175

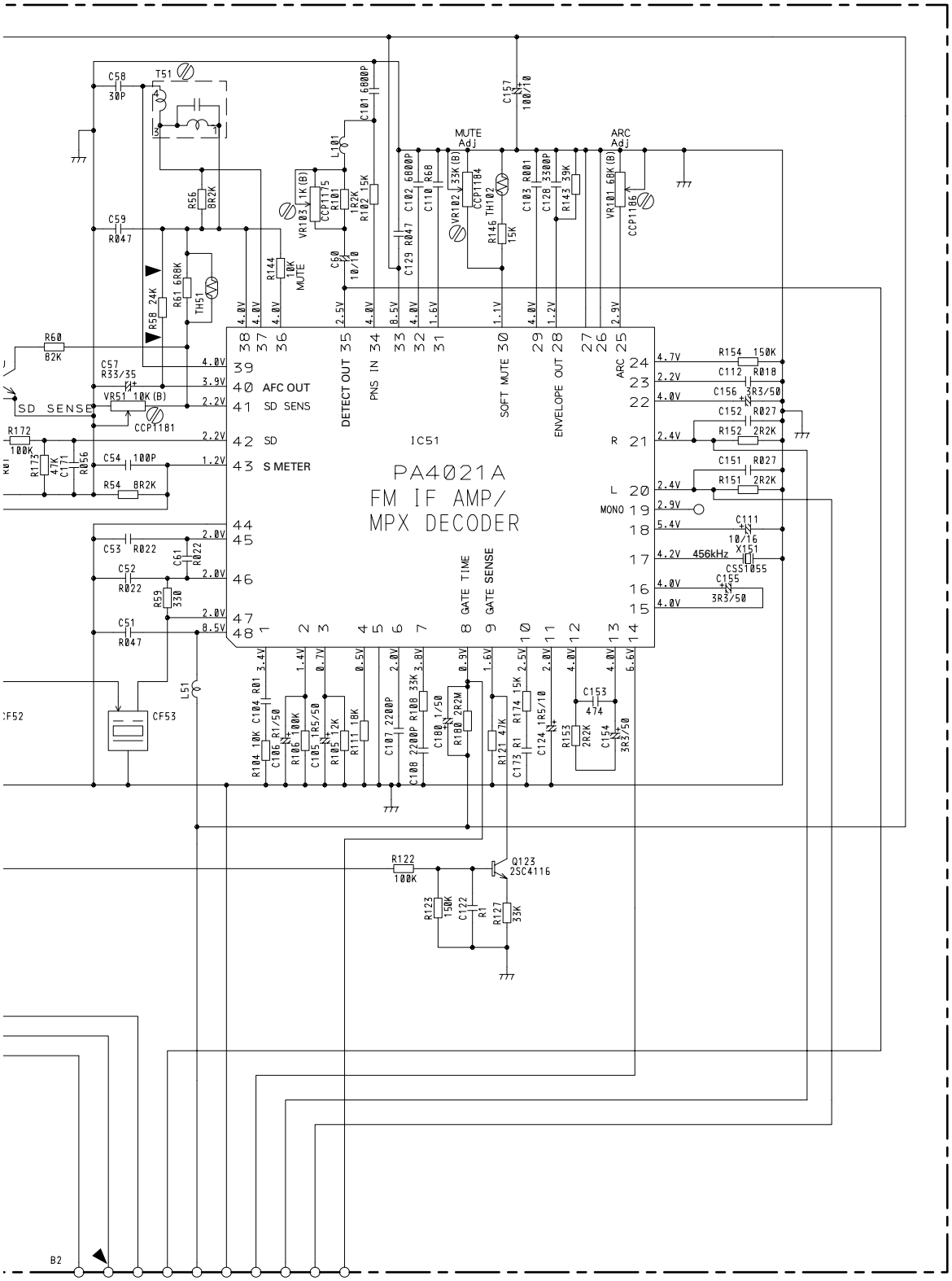
RESISTORS

Circuit Symbol and No.		Part No.
R	3	RS1/10S103J
R	4	RS1/10S103J
R	5	RS1/10S223J
R	6	RS1/10S0R0J
R	10	RS1/10S0R0J
R	12	RS1/10S0R0J
R	13	RD1/4PU560J
R	23	RS1/10S682J
R	24	RS1/10S123J
R	31	RS1/10S0R0J
R	32	RS1/10S0R0J
R	33	RS1/10S561J
R	54	RS1/10S822J
R	56	RS1/10S822J
R	58	RS1/16S243J
R	59	RS1/16S331J
R	60	RS1/10S823J
R	61	RS1/10S682J
R	72	RS1/10S910J
R	74	RS1/10S910J
R	101	RS1/16S122J
R	102	RS1/16S153J
R	104	RS1/10S103J
R	105	RS1/10S123J
R	106	RS1/10S104J
R	108	RS1/10S333J
R	111	RS1/10S183J
R	121	RS1/10S473J
R	122	RS1/10S104J
R	123	RS1/10S154J
R	127	RS1/10S333J
R	143	RS1/10S393J
R	144	RS1/10S103J
R	146	RS1/10S153J
R	151	RS1/10S222J
R	152	RS1/10S222J
R	153	RS1/10S222J
R	154	RS1/10S154J
R	172	RS1/10S104J
R	173	RS1/10S473J
R	174	RS1/10S153J
R	180	RS1/10S225J

CAPACITORS

Circuit Symbol and No.		Part No.
C	1	CEJA100M16
C	2	CKSQYB473K16
C	5	CKSQYB103K25
C	21	CKSQYB103K25
C	51	CKSQYB473K16
C	52	CKSRYB223K25
C	53	CKSRYB223K25
C	54	CCSQCH101K50
C	57	CSZSR33M25
C	58	CCSQCH300J50
C	59	CKSQYB473K16
C	60	CEJANP100M10
C	61	CKSRYB223K25
C	101	CKSRYB682K50
C	102	CKSQYB682K50
C	103	CKSQYB102K50
C	104	CKSQYB103K25
C	105	CEJA1R5M50
C	106	CEJAR10M50
C	107	CKSRYB222K50
C	108	CKSQYB222K50
C	110	CKSYB684K16
C	111	CEJA100M16
C	112	CKSYB183K25
C	122	CKSQYB104K16
C	124	CSZS1R5M10
C	128	CKSQYB332K50
C	129	CKSQYB473K16
C	151	CKSQYB273K25
C	152	CKSQYB273K25
C	153	CKSYB474K16
C	154	CEJA3R3M50
C	155	CEJA3R3M50
C	156	CEJA3R3M50
C	157	CEJA101M10
C	171	CKSQYB563K25
C	172	CKSQYB103K25
C	173	CKSQYB104K16
C	180	CEJA1R0M50


FM UNIT
FM FRONT END
FE101
CWB1070
1 ANT
2 GND
3 LOC.L
4 LOC.H
5 VCC
6 VCO
7 VCO G
8 TV
9 VCL
10 IF OUT
0.0V
0.0V
7.9V
8.5V
0.0V
1.6V
0.7V
3.8V
L1
L2
R10 0R0
R12 0R0
R3 10K
R13 56
R4 10K
C5 R01
C1 10PF
C2 R047
VR1 22K (B)
CCP1103
Q1 DTC124EU
Q2 DTC124EU
Q5 DTC124EU
R23 6R8K
R5 22K
R6 0R0
R24 12K
C21 R01
Q3 2SA1586
R31 0R0
R32 0R0
R72 91
R74 91
R33 560
CF52
Q51 DTC124EU
R60 82K
SD SEN
Q171 2SC4116
R172 100K
C172 R01
R173 4.7K
C171
B1
B2
ANT B1
GND B2
LOC.H B3
LOC.L B4
VCO B5
VCO GND B6
TV B7


IC51
PA4021A
FM IF AMP/
MPX DECODER
AFC OUT
SD SENS
SD
S METER
DETECT OUT
PNS IN
SOFT MUTE
ENVELOPE OUT
ARC
GATE TIME
GATE SENSE
MONO
MUTE Adj
ARC Adj
SD SENSE
456kHz
B2
SL B1
SD B2
SEEK B3
COMP OUT B4
+B B5
IF GND B6
ST B7
Rch B8
Lch B9
ENV B10

FM ADJUSTMENT

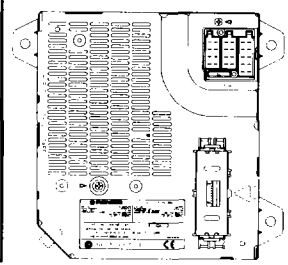
NOTE:Before proceeding to further adjustments after switching power ON, let the tuner run for ten minutes to allow the circuits to stabilize.

Modulation M1 : MONO MOD., 400Hz, 30%(22.5kHz Dev.)
M2 : MONO MOD., 400Hz, 30%(75kHz Dev.)
S1 : STEREO MOD., 1kHz, L or R=30%(20.25+7.5kHz Dev.)
S2 : STEREO MOD., 1kHz, L or R=90%(60.75+7.5kHz Dev.)

	No.	FM SSG		Displayed	Adjustment	Adjustment Method
		Frequency(MHz)	Level(dBf)	Frequency(MHz)	Point	(Switch Position)
Center Meter	1	98.1 M2	65	98.1	T51	Center Meter : 0
Max. Mute	1	98.1 M1	65	98.1	VR102	mV Meter(2) : A-20dB±1dB
ARC	1	98.1 S1	38±1	98.1	VR101	mV Meter(2) : Separation 5dB
Sepa-ration	1	98.1 S1	65	98.1	VR103	mV Meter(2) : Separation Maximum
SD	1	98.1 M1	27±1	98.1	VR51	DC V Meter(1) : Approx. 5V (SEEK ON)
LOC.H ATT.	1	98.1 M1	25±1	98.1	VR1	DC V Meter(1) : Approx. 5V (LOC.H ON, SEEK ON)

Service Manual

PIONEER®
The Art of Entertainment
RENAULT



ORDER NO.
CRT1681

SYSTEM CONTROL UNIT

SCU-2156ZRN EW

VEHICLE	DESTINATION	PRODUCED AFTER	RENAULT PART No.	ID No.	PIONEER MODEL No.
MATRA ESPACE	EUROPE	JULY 1996	6025 30 1097	——	SCU-2156ZRN/EW

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MC-Service

K-FFS. JULY 1996 Printed in Japan

1. SPECIFICATIONS

General

Power source ..... 14.4V DC(10.5-16.0V allowable)
Ground system ..... Negative type
Weight 1.1kg

Amplifier

Maximum power output 25W
Continuous power output 13W
Load impedance ..... 4Ω (4-8Ω allowable)
Tone controls
(Bass) ..... ± 10dB(100Hz)
(Middle) ..... ± 10dB(1kHz)
(Treble) ..... ± 10dB(10kHz)
Woofer max.output level ..... - 1.0dB(1kHz)

FM tuner

Frequency range ..... 87.5 - 108MHz
Usable sensitivity ..... 9dBf(1.0 μV/75Ω,mono,S/N:30dB)
40dB quieting sensitivity ..... 13dBf(1.7 μV/75Ω,mono)
Signal-to-noise ratio ..... More than 50dB
Distortion ..... Less than 1.0%(at 65dBf,1kHz)
Stereo separation ..... 25dB(at 65dBf,1kHz)

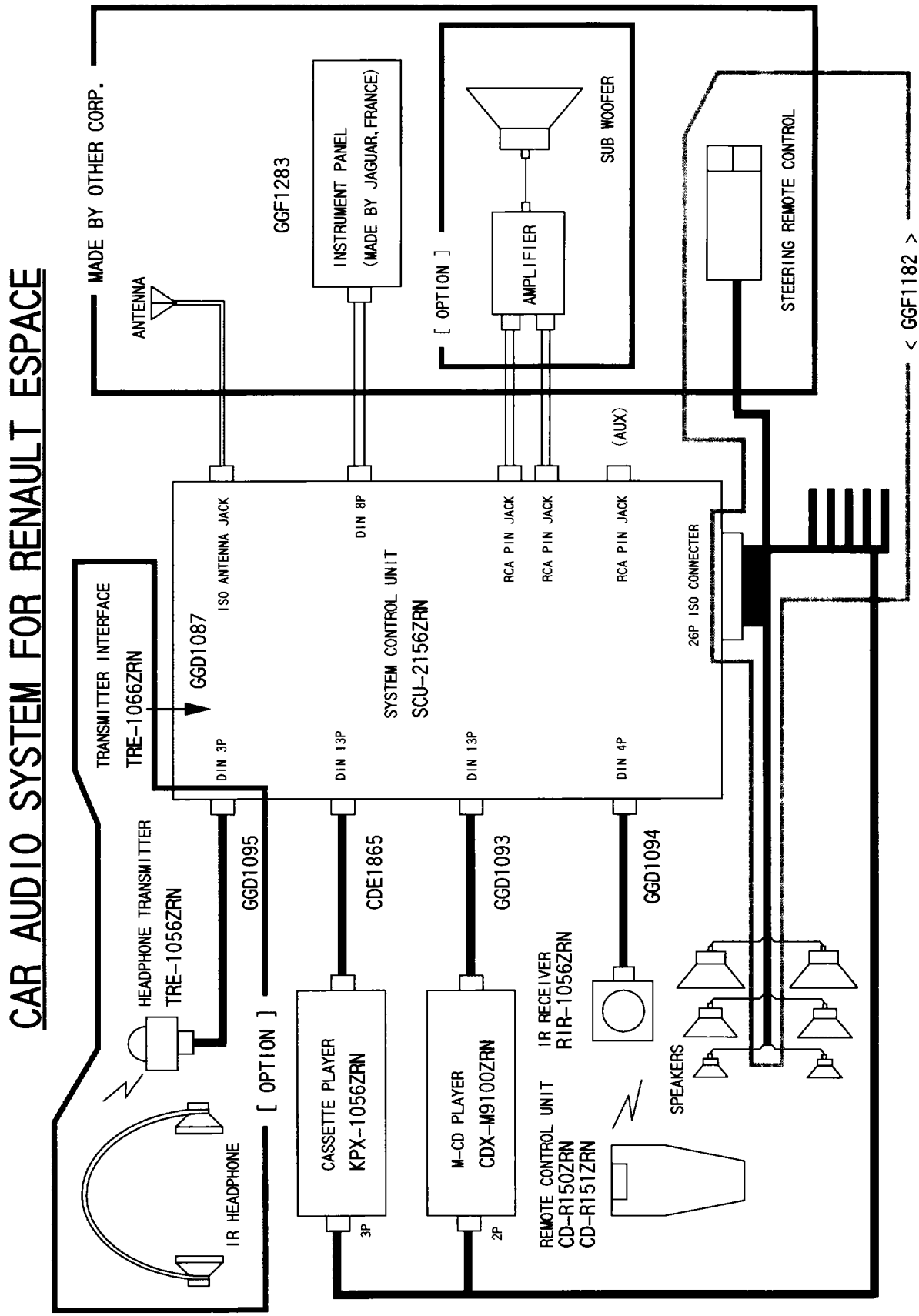
MW tuner

Frequency range ..... 531 - 1,602kHz
Usable sensitivity ..... 30dB(S/N:20dB)
Selectivity ..... 50dB(± 9kHz)

LW tuner

Frequency range ..... 153 - 281kHz
Usable sensitivity ..... 33dB(S/N:20dB)
Selectivity ..... 50dB(± 9kHz)

2. CAR AUDIO SYSTEM



3. CONNECTOR FUNCTION DESCRIPTION

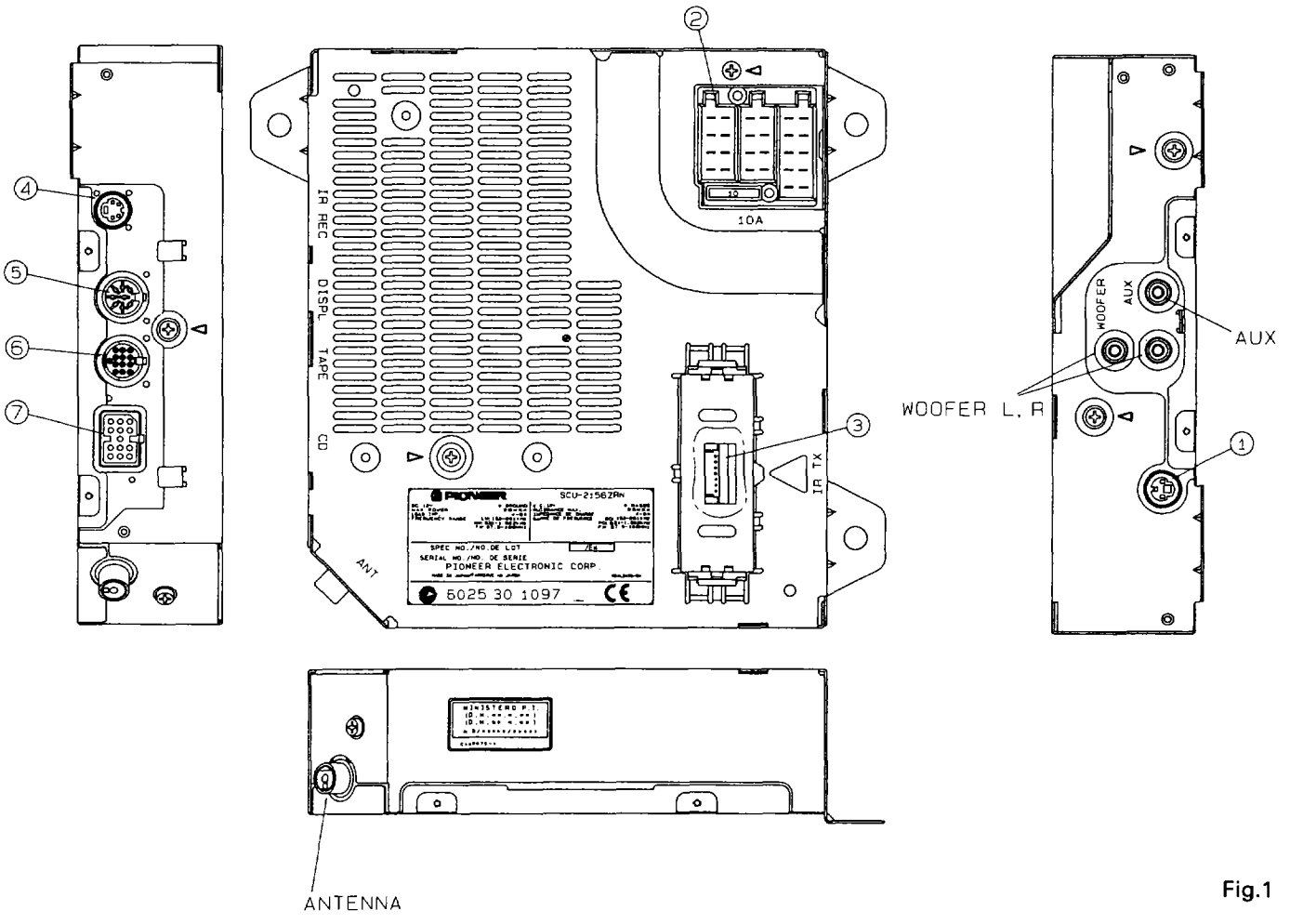
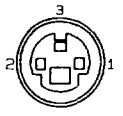
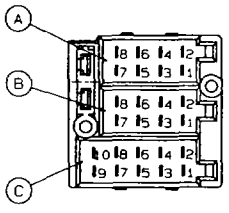


Fig.1



3P

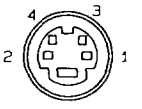
1.IR TX	
1	L OUT
2	R OUT
3	SW +B



ISO 26P

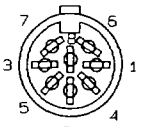
2	
A1	N.C
A2	N.C
A3	TEL MUTE
A4	BACK UP
A5	N.C
A6	N.C
A7	ACC+
A8	GND
B1	R.R+
B2	R.R-
B3	F.R+
B4	F.R-
B5	F.L+
B6	F.L-
B7	R.L+
B8	R.L-
C1	N.C
C2	N.C
C3	N.C
C4	GND
C5	LO
C6	IN2
C7	L1
C8	IN0
C9	L5
C10	IN1

3	
7	LFB -8.5V
6	R OUT
5	L OUT
4	GND
3	SGND
2	R IN
1	L IN



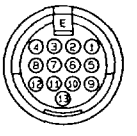
IR 4P

4.IR REC	
1	GND
2	SW VDD
3	REMIN
4	N.C



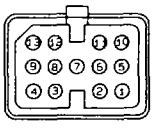
8P

5.DISPL	
1	GND
2	BDATA
3	BSCK
4	BRXEN
5	BSET
6	BINH
7	GND
8	GND



K7 13P

6.TAPE	
1	DK GND
2	DK L
3	DK GND
4	DK R
5	BUS GND
6	BUS GND
7	DMUTE
8	GND
9	BSRQ
10	BRST
11	BRXEN
12	BDATA
13	BSCK



CD 13P

7.CD	
6	CD GND
5	CD L
11	CD GND
10	CD R
1	BUS GND
2	BUS GND
7	SW +B
3	BUS GND
4	BSRQ
8	BRST
9	BRXEN
12	BSCK
13	BDATA

Fig.2

4. ADJUSTMENT

● Connection Diagram

NOTE:

Select C1 so that total capacity of 80pF is attained from the direction of the receiver jack.

Z: Output impedance of SSG.

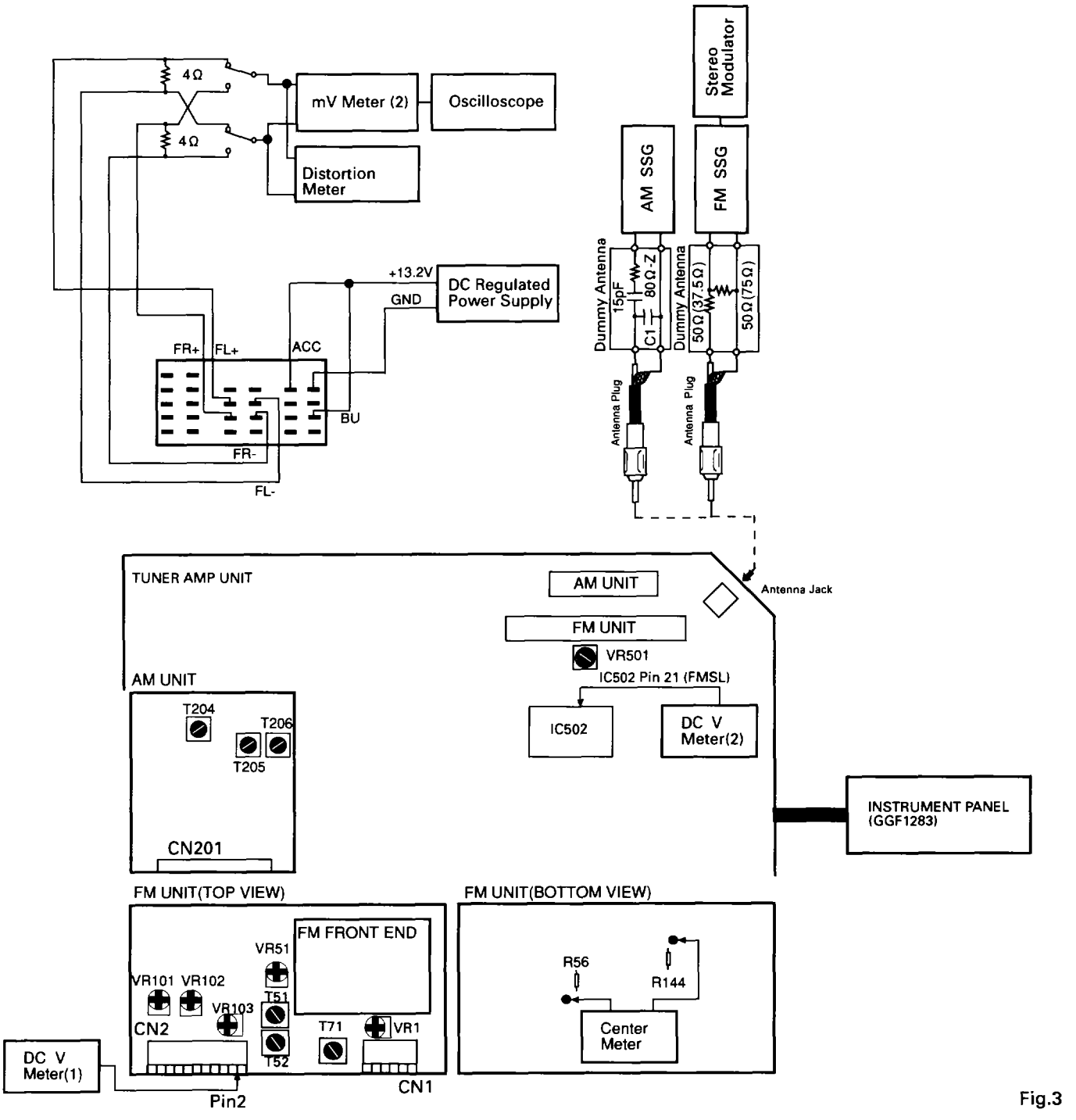


Fig.3

AM ADJUSTMENT

	No.	AM SSG(400Hz,30%)		Displayed	Adjustment	Adjustment Method
		Frequency(kHz)	Level(dBμV)	Frequency(kHz)	Point	(Switch Position)
IF	1	999	15	999	T204,T205 T206	mV Meter(2) : Maximum

FM ADJUSTMENT

Modulation M1:MONO MOD., 400Hz 30%(22.5kHz Dev.)
M2:MONO MOD., 400Hz 100%(75kHz Dev.)
S1:STEREO MOD., 1kHz, L or R=30%(20.25kHz+7.5kHz Dev.)
S2:STEREO MOD., 1kHz, L or R=90%(60.75kHz+7.5kHz Dev.)

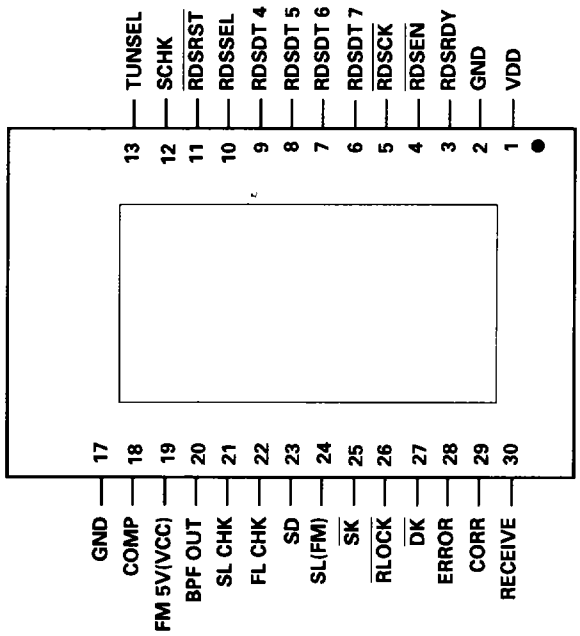
	No.	FM SSG		Displayed	Adjustment	Adjustment Method
		Frequency(MHz)	Level(dBf)	Frequency(MHz)	Point	(Switch Position)
IF	1	98.1 M2	65	98.1	T51	Center Meter : 0
	2	98.1 M2	65	98.1	T52	Distortion Meter : minimum
	3	Repeat No.1–2 alternately so that the center meter indicates the 0 output and distortion meter indicates the minimum output.				
	4	98.1 S2	65	98.1	T71	Distortion Meter : minimum
Max.	1	98.1 M1	65	98.1	–	mV Meter(2) : A
Mute	2	98.1 M1	-∞	98.1	VR102	mV Meter(2) : A-20dB
ARC	1	98.1 S1	38	98.1	VR101	mV Meter(2) : Separation 5dB
Separ-ation	2	98.1 S1	65	98.1	VR103	mV Meter(2) : Separation Maximum
SD	1	98.1 M1	22 ± 1	98.1	VR51	DC V Meter(1) : Approx. 5V (SEEK ON)
LOC.H ATT.	1	98.1 M1	34 ± 1	98.1	VR1	DC V Meter(1) : Approx. 5V (LOC.H ON, SEEK ON)

FMSL ADJUSTMENT MONO MOD., 400Hz 100%(75kHz Dev.)

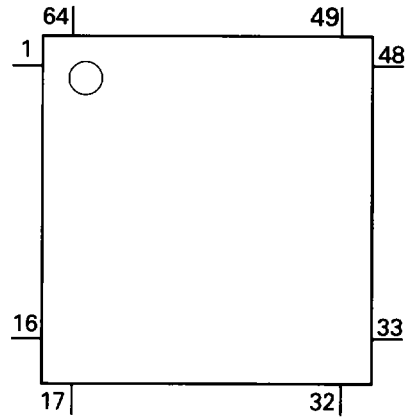
	No.	FM SSG		Displayed	Adjustment	Adjustment Method
		Frequency(MHz)	Level(dBf)	Frequency(MHz)	Point	(Switch Position)
FMSL	1	106.1	45	106.1	VR501	DC V Meter(2) : 2.25V ± 0.05V

5. IC INFORMATION

CWV1065



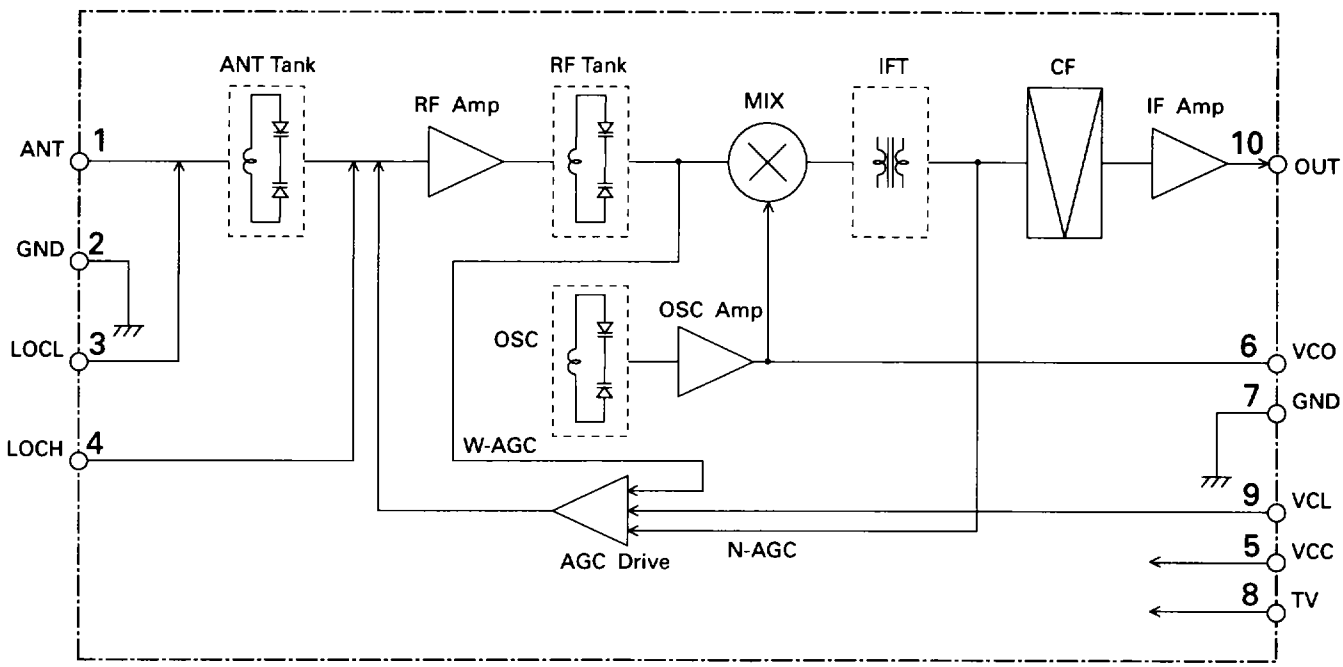
*PD4528B



Format	Meaning
C	C MOS

IC's marked by are MOS type.*
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

FM Front End(CWB1074)



● Pin Functions (PD4528B)

Pin No.	Pin Name	I/O	Format	Function and Operation
1	$\overline{\text{AVPW}}$	O	C	A Vref watching terminal
2	PEE	O	C	Beep tone output
3	$\overline{\text{BRXEN}}$	I/O	C	Communication reception enable input/output
4	$\overline{\text{BINH}}$	O	C	Communication data input inhibit
5	A/$\overline{\text{B}}$	I		Model select
6	$\overline{\text{AUXMUTE}}$	O	C	AUX mute
7	MUTE	O	C	Synthesis mute output
8	BSET	O	C	BUS communication reset output
9	VSS			GND
10-12	NC			Not used
13	$\overline{\text{BRST}}$	O	C	Reset output
14	ACCMUTE	O	C	ACC off mute
15	SYSPW	O	C	System power control output
16	PCE	O	C	PLL chip enable output
17	$\overline{\text{AM}}$/FM	O	C	AM/FM select output
18	$\overline{\text{BSRQ}}$	I		BUS serial pole request input
19	RDSSEL	O	C	Select output for RDS IC
20	$\overline{\text{RDSRST}}$	O	C	Reset output for RDS IC
21	$\overline{\text{RDSEN}}$	O	C	Enable output for RDS IC
22,23	$\overline{\text{KDT0,1}}$	I		Key data 0,1
24	VSS			GND
25	$\overline{\text{KDT2}}$	I		Key data 2
26	NC			Not used
27-29	$\overline{\text{KST0-2}}$	O	C	Key strobe 0-2
30	NC			Not used
31	VDT	O	C	Data output for electronic volume
32	VST	O	C	Strobe pulse output for electronic volume
33	VCK	O	C	Clock output for electronic volume
34	$\overline{\text{TMUTE}}$	O	C	Tuner mute output
35	RESET	I		Reset
36	REMIN	I		Remote control pulse input
37	$\overline{\text{BSENS}}$	I		Back up power sense input
38	$\overline{\text{ASENS}}$	I		ACC power sense input
39	$\overline{\text{8VSENS}}$	I		8V sense input
40	VDD			Power supply
41	X2			Crystal oscillator connection pin
42	X1			Crystal oscillator connection pin
43	IC			Connect to GND
44	NC			Not used
45	XT1			Connect to GND
46	AVSS			A/D GND
47	SDLEV	I		Tuner SD level detector input
48	NC			Not used
49	NC			Not used
50	PDI	I		Data input from PLL IC
51	RDSRDY	I		Ready input from RDS IC
52	SD	I		SD input
53	$\overline{\text{TESTIN}}$	I		Test program mode input
54	TELMUT	I		Telephone mute signal input
55	AVDD			Positive power supply terminal for analog circuit
56	AVREF	I		Reference voltage
57	RDSDTI	I		Serial data input for RDS IC
58	RDSDTO	O		Serial data output for RDS IC
59	$\overline{\text{RDSCK}}$	I/O	C	Serial clock input/output for RDS IC
60	PDO	O	C	Data output for PLL IC
61	PCK	O	C	Serial clock output for PLL IC
62	BSI	I		Communication serial data input
63	BSO	O		Communication data output
64	$\overline{\text{BSCK}}$	I/O	C	Communication serial clock input/output

6. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/○S○○○J,RS1/○○S○○○J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

=====Circuit Symbol & No.	Part Name=====	Part No.
Unit Number : CWA1089		
Unit Name : AM Unit		
MISCELLANEOUS		
IC 201		PAF001A
Q 201		2SK435
Q 202		2SC4116
Q 203 231		DTC124EU
Q 204		2SC2412K
D 201		MA157
D 204		MA157
D 205		SVC203CP
L 201	Inductor	CTF1287
L 202	Coil	CTB1082
L 203	Inductor	LAU390K
L 204	Ferri-Inductor	LAU680K
L 205	Ferri-Inductor	LAU4R7K
L 206	Inductor	CTF1198
T 203	Coil	CTB1040
T 204	Coil	CTE1120
T 205	Coil	CTE1038
T 206	Coil	CTE1072
CF 201		CTF1262
CF 202	Filter	CTF1085
X 201	Crystal Resonator10.26MHz	CSS1111
RESISTORS		
R 201		RS1/10S220J
R 202 232		RS1/10S102J
R 203		RS1/10S222J
R 204		RS1/10S473J
R 205 209		RS1/10S470J
R 207		RS1/10S822J
R 211 237		RS1/16S103J
R 212		RS1/10S103J
R 214		RS1/16S222J
R 231		RS1/10S823J
R 233		RS1/16S222J
R 235		RS1/10S104J
R 236 238 241 242		RS1/10S103J
R 239		RS1/10S152J
R 240		RS1/10S333J
R 243		RS1/16S152J
R 244		RS1/16S242J
R 249		RS1/10S225J
CAPACITORS		
C 201		CKSQYB103K25
C 202		CKSRYB332K50
C 203		CSZA3R3M16
C 204 208		CKSRYB223K25
C 205		CCSRCH120J50
C 206		CCSQCH560J50
C 207		CCSQCH680J50
C 211 235		CEAR47M50LL
C 212		CKSQYB332K50
C 213		CCSQCH330J50
C 215 233		CKSQYB473K16
C 216 232 241		CKSRYB103K50
C 220		CCSQCH430J50
C 221		CCSQCH120J50
C 224 229		CEA470M16LL
C 225 226		CKSQYB333K25
C 231		CCSQCH100D50
C 234 244		CKSQYB103K25
C 236		CEA0R1M50LL
C 237		CEA4R7M35LL
C 238		CEA3R3M50LL
C 239		CKSQYB223K25
C 242		CCSQCH030C50
Unit Number : CWE1437		
Unit Name : FM Unit		
MISCELLANEOUS		
IC 51		PA4021A
Q 1		DTC124EU
Q 2		DTC124EU
Q 3		2SA1586
Q 5 51		DTC124EU
Q 71 171		2SC4116
Q 123		2SC4116
L 1 51	Ferri-Inductor	LAU150K
L 2	Inductor	LCTBR33K2125
L 71		LAU3R9K
L 101	Inductor	LCTA102K4532
T 51	Coil	CTE1111
T 52	Coil	CTE1022
T 71	Coil	CTE1043
TH 51	Thermistor	CCX1024
TH 102	Thermistor	CCX1015
CF 52 53	Filter	CTF1057
X 151	Ceramic Resonator 456kHz	CSS1055
VR 1	Semi-fixed 22kΩ(B)	CCP1183
VR 51	Semi-fixed 10kΩ(B)	CCP1181
VR 101	Semi-fixed 68kΩ(B)	CCP1186
VR 102	Semi-fixed 33kΩ(B)	CCP1184
VR 103	Semi-fixed 1kΩ(B)	CCP1175
	FM Front End	CWB1074
RESISTORS		
R 3		RS1/10S123J
R 4 75		RS1/10S102J
R 5		RS1/10S223J
R 6 10 12		RS1/10S0R0J
R 7		RD1/4PU560J

=====Circuit Symbol & No. Part Name=====	Part No.
R 23 61	RS1/10S682J
R 24 72 105	RS1/10S123J
R 25	RS1/10S243J
R 54	RS1/10S822J
R 56 173	RS1/10S473J
R 57	RS1/10S472J
R 58	RS1/16S203J
R 59	RS1/16S331J
R 60	RS1/10S273J
R 73	RS1/10S103J
R 74	RS1/10S331J
R 76	RS1/10S121J
R 101	RS1/16S681J
R 102	RS1/16S223J
R 104	RS1/10S103J
R 106 154 172	RS1/10S104J
R 108	RS1/10S333J
R 111	RS1/10S183J
R 121	RS1/10S473J
R 122	RS1/10S104J
R 123	RS1/10S154J
R 127	RS1/10S333J
R 143	RS1/10S393J
R 144	RS1/10S333J
R 146 174	RS1/10S153J
R 151 152	RS1/10S392J
R 153	RS1/10S222J
R 180	RS1/10S105J
CAPACITORS	
C 1 111	CEA100M16LL
C 2 59 74 129	CKSQYB473K16
C 5	CKSQYB472K50
C 10 54	CCSQCH101K50
C 21 72 73 80 104 172	CKSQYB103K25
C 51	CKSQYB473K16
C 52 53 61	CKSRYB223K25
C 57	CSZSR33M35
C 58	CCSQCH040C50
C 60	CEA100M10NPLL
C 101	CKSRYB682K50
C 102	CKSQYB682K50
C 103	CKSQYB272K50
C 105	CEA1R5M50LL
C 106	CEA0R1M50LL
C 107	CKSRYB222K50
C 108	CKSQYB222K50
C 110	CKSYB224K16
C 112	CKSYB183K25
C 122	CKSQYB104K16
C 124	CSZS1R5M10
C 128	CKSQYB332K50
C 151 152	CKSQYB153K25
C 153	CKSYB474K16
C 154 155 156	CEA3R3M50LL
C 157	CEA101M10LL
C 171	CKSQYB563K25
C 173	CKSQYB104K16
C 180	CEA2R2M50LL
Unit Number : CWM3726	
Unit Name : Tuner Amp Unit	
MISCELLANEOUS	
IC 451 452	UPC4570G
IC 501	LC72140M
IC 502	CWV1065
IC 553	PAL003A
IC 701	PD4528B

=====Circuit Symbol & No. Part Name=====	Part No.
IC 751	PMJ002A
IC 901	PA2023A
IC 902	PAJ001A
Q 451 452 453 454	DTC143TK
Q 455 456 701 702 703	DTA114EK
Q 457 460	DTC143TK
Q 458 459 856 857 858 859	DTC343TK
Q 502 504 507	2SC2712
Q 503	2SK208
Q 505	2SK208
Q 506 851 907	DTC124EK
Q 508 509 510	2SC2712
Q 511 855	DTA114EK
Q 512	DTC124EK
Q 852 853 854	DTC343TK
Q 861 862	DTC343TK
Q 904 908	2SC2712
Q 905	DTC114TK
Q 906	2SA1358
D 458 852 853	MA151WA
D 501 502	MA3027
D 503 504 505 906	MA151WK
D 506 908	MA3047
D 560 561 563 901	ERA15-02VH
D 562	ERC05-10BE3
D 651 652 653 654 655 656 657 701	MA153
D 702 907	MA151A
D 851	MA151WA
D 854	MA151WK
D 904	MA3043
D 905	MA151A
L 501 Inductor	LCTA101K4532
L 502 503 Inductor	LPSQ2R2K
L 552 Choke Coil 0.3mH	CTH1075
L 601 Inductor	LPSQ2R2K
L 701 Inductor	LPSQ2R2K
L 703 Inductor	LPSQ2R2K
X 501 Crystal 4.5MHz	CSS1011
X 701 Ceramic Resonator 4.190MHz	CSS1361
VR 501 Semi-fixed 2.2kΩ(B)	CCP1150
AM Unit	CWA1089
FM Unit	CWE1437
Fuse 10A	CEK1136
AR 501	DSP-201M
RESISTORS	
R 451 452 514 539 919	RS1/10S102J
R 453 454 481 541 542 671 704 705 731 918	RS1/10S473J
R 455 456 771	RS1/10S152J
R 457 458	RS1/10S682J
R 459 485 622 869	RS1/10S223J
R 461 462 463 464 467 468 479 480 702 871	RS1/10S223J
R 465 466	RS1/10S122J
R 469 470	RS1/10S273J
R 471 472	RS1/10S223J
R 475 508	RS1/10S152J
R 476	RS1/10S273J
R 477 478 709	RS1/10S273J
R 486 530 601 602 603 608 620 621 623 624	RS1/10S473J
R 487	RS1/10S182J
R 506 509 521 522 546	RS1/10S472J
R 507 511 516 517 518 519 537 540 870 909	RS1/10S102J
R 510	RS1/10S103J
R 512	RS1/10S222J
R 513 531 532 604 605 606 607 875 876 877	RS1/10S222J
R 523	RS1/10S0R0J

=====Circuit Symbol & No. Part Name=====	Part No.
R 533	RS1/10S393J
R 534	RS1/10S153J
R 538 549	RS1/10S151J
R 543 544	RS1/10S182J
R 545 908	RS1/10S683J
R 548	RS1/10S393J
R 555 701 864 865	RS1/10S103J
R 565	RS1/8S103J
R 566 567 568 569 570 571 651 652 653 654	RS1/10S471J
R 572	RS1/2S102J
R 612	RS1/10S563J
R 617 656 657 721	RS1/10S471J
R 625 703 716 717 718 719 772	RS1/10S473J
R 655	RS1/10S471J
R 658 661 662 663	RS1/10S103J
R 659 660	RS1/10S682J
R 664 665 666 667 668 669 670	RS1/10S221J
R 672 673 674 675 676	RS1/10S2R2J
R 710	RS1/10S391J
R 720	RS1/10S105J
R 722 723	RS1/8S181J
R 751 752	RS1/10S101J
R 753 754	RS1/10S273J
R 755 756	RS1/10S681J
R 763 764	RS1/10S332J
R 766 767 768	RS1/10S472J
R 769	RS1/10S153J
R 770	RS1/10S123J
R 773	RS1/10S471J
R 796	RS1/10S0R0J
R 857 858	RS1/10S104J
R 859 860	RS1/10S332J
R 866	RS1/10S331J
R 867 868	RS1/10S393J
R 872 873 874	RS1/10S223J
R 878	RS1/10S222J
R 879 880	RS1/10S562J
R 881 882	RS1/10S0R0J
R 883	RS1/10S392J
R 884 885	RS1/10S272J
R 886	RS1/10S220J
R 901 905	RS1/10S154J
R 902	RS1/10S623J
R 903 907	RS1/10S124J
R 904	RS1/10S513J
R 906	RS1/10S563J
R 913	RS1/10S102J
R 914	RS1/10S153J
R 915	RS1/10S152J
R 916	RS1/10S223J
R 917	RS1/10S472J
R 920	RS1/10S272J
R 921	RS1/10S122J

CAPACITORS

C 451 452 856	CEAS2R2M50
C 453 454 506 775 776	CCSQCH101J50
C 457 458 551 556 863 864 865 866 905	CEAS010M50
C 461 462 523 753 754 759 760 777 778 779	CEAS100M50
C 481	CCSQCH560J50
C 504 515 519	CCSQCH101J50
C 507 4.7 μF/16V	CCH1005
C 508 511 517 525 527	CKSQYB103K50
C 509 914 916	CKSQYB473K50
C 510	CFTNA474J50
C 512	CEASR47M50
C 513 514	CCSQCH120J50
C 516 794	CEAS4R7M50
C 518 520	CKSQYB223K50
C 522	CKSQYB102K50
C 524 871 872 873 874 907	CEASR22M50
C 531 532	CKSQYB103K50
C 555	CEAS100M50
C 566	CKCYF473Z50
C 567 568	CEAS332M16
C 569 576	CKCYF473Z50
C 570 571 572 573 574 575	CKSQYB102K50
C 651 652 653	CKSQYF104Z25
C 701 710 711 712	CKSQYB473K50
C 707	CKSQYB222K50
C 751 752	CKSQYB152K50
C 755 756	CKSQYB272K50
C 757 758	CEAS2R2M50
C 761 762	CKSQYB183K25
C 763 764	CCSQCH221J50
C 765 766	CKSQYF224Z25
C 767 768	CKSQYB332K50
C 771 772 790 791 792 793	CEA2R2M50NPLL
C 773 774	CKSQYB333K25
C 780 781	CKSQYF104Z25
C 782	CKSQYB103K50
C 795	CEAS100M16
C 855 876 877	CEAS100M50
C 861	CEAS3R3M50
C 878 879	CKSQYB104K16
C 901	CEAS331M10
C 902	CASA680K10
C 903	CEAS101M16
C 904 909 911	CEAS470M10
C 906	CEAS222M16
C 912	CASA2R2M16
C 913	CASA220M10
C 917	CEAS330M10
C 918	CEAS470M10

Unit Number : CWM3733
Unit Name : Equalizer Unit

MISCELLANEOUS

IC 251 252 253 254	NJM2068MD1
Q 251 252 255 256 259 260 261 262	2SC2412KLN
Q 257 258 263 264	2SC2412KLN

RESISTORS

R 251 252 289 290	RS1/10S473J
R 253 254 288 291 292	RS1/10S472J
R 255 256	RS1/10S123J
R 257 258 295 296 303 304 319	RS1/10S683J
R 259 260 297 298 305 306	RS1/10S122J
R 261 262 299 300 307 308	RS1/10S332J
R 263 264	RS1/10S222J
R 265 266 321 322	RS1/10S472J
R 267 268	RS1/10S182J
R 271 272	RS1/10S103J
R 273 274 281 282 311 312 320	RS1/10S683J
R 275 276 283 284 313 314	RS1/10S122J
R 277 278 279 280 285 286 315 316	RS1/10S332J
R 287 317 318	RS1/10S472J
R 293 294	RS1/10S821J
R 301 302	RS1/10S101J
R 309 310	RS1/10S152J
R 323 324	RS1/10S152J

=====Circuit Symbol & No. Part Name=====										Part No.
CAPACITORS										
C	251	252								CQEA274J63
C	253	254								CKSQYB183K25
C	255	256								CKSQYB821K50
C	257	258								CKSQYB821K50
C	259	260	261	262	273	274				CQEA154J63
C	263	264								CKSQYB272K50
C	265	266								CKSQYB392K50
C	267	282								CKSQYB821K50
C	268	281								CKSQYB821K50
C	269	270								CQEA474J63
C	271	272	275	276						CKSQYB333K50
C	277	278								CKSQYB822K50
C	279	280								CKSQYB103K50

7. BLOCK DIAGRAM

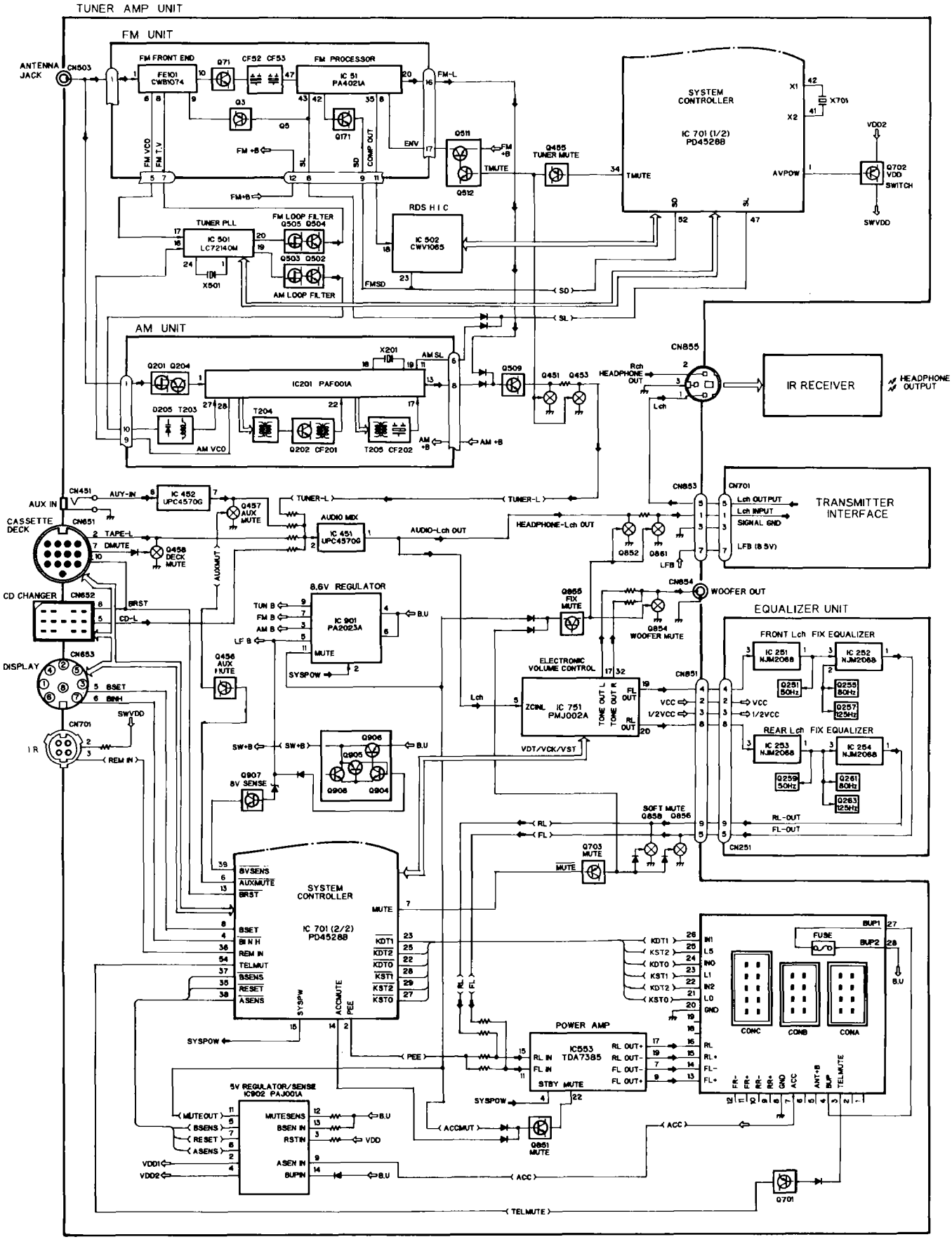
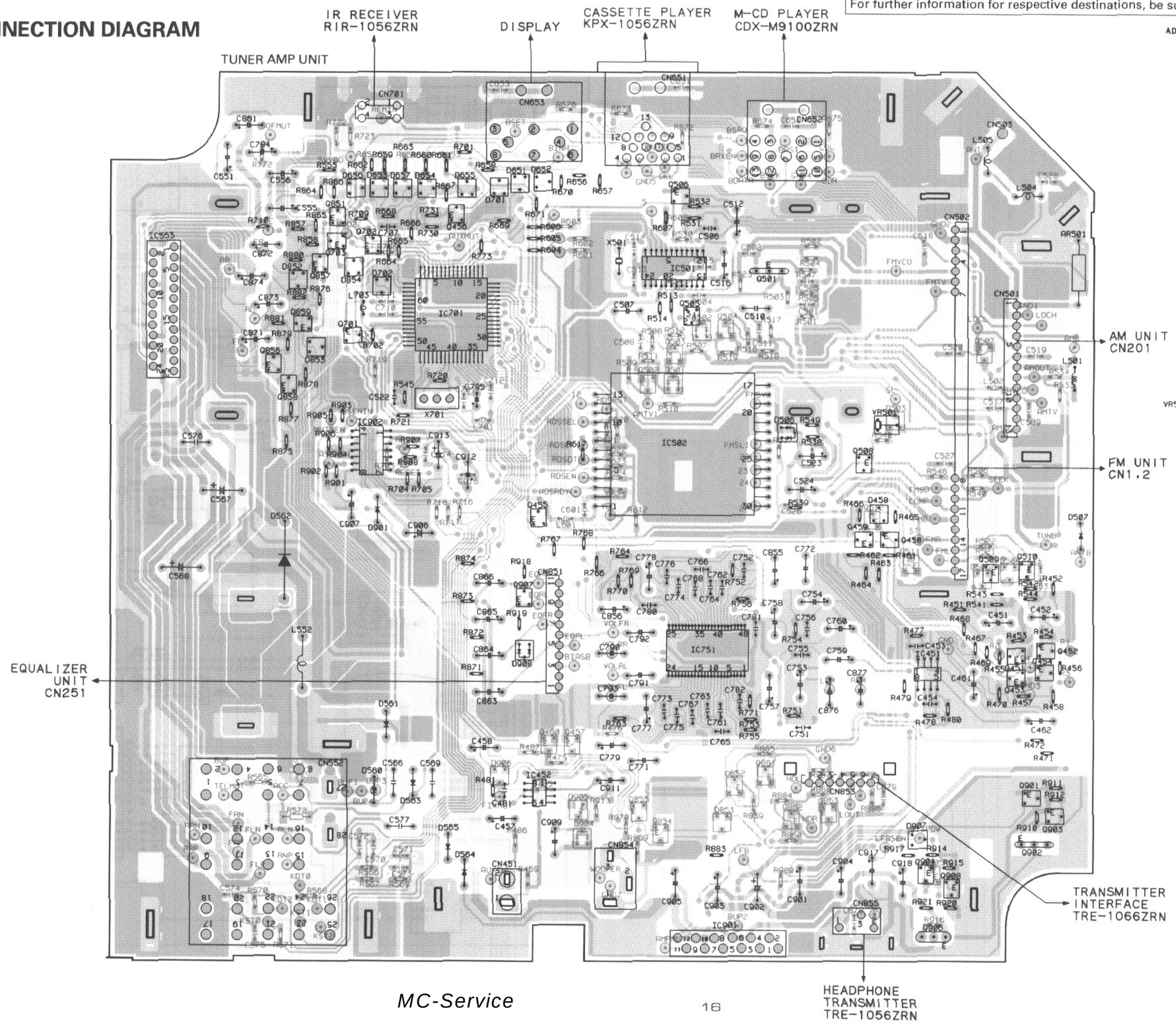


Fig.4

NOTE:
The parts mounted on this PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.

8. CONNECTION DIAGRAM



ADJ

IC,Q

Q506

Q851

Q456
Q703 Q702
Q857 IC501

Q501

IC701
IC553 Q859 Q701 Q505 Q504

Q503
Q856
Q507

Q502
Q858

IC502
IC902 Q508

Q512

Q455
Q459 Q458
Q511 Q510

Q509

Q907

IC751 IC451 Q452
Q451 Q454

Q453

Q460 Q457

Q861
Q852

IC452 Q901
Q862
Q855 Q853 Q903

Q854

Q905 Q902

Q904
Q908

IC901 Q906

Fig.5

9. SCHEMATIC CIRCUIT DIAGRAM

MC-Service

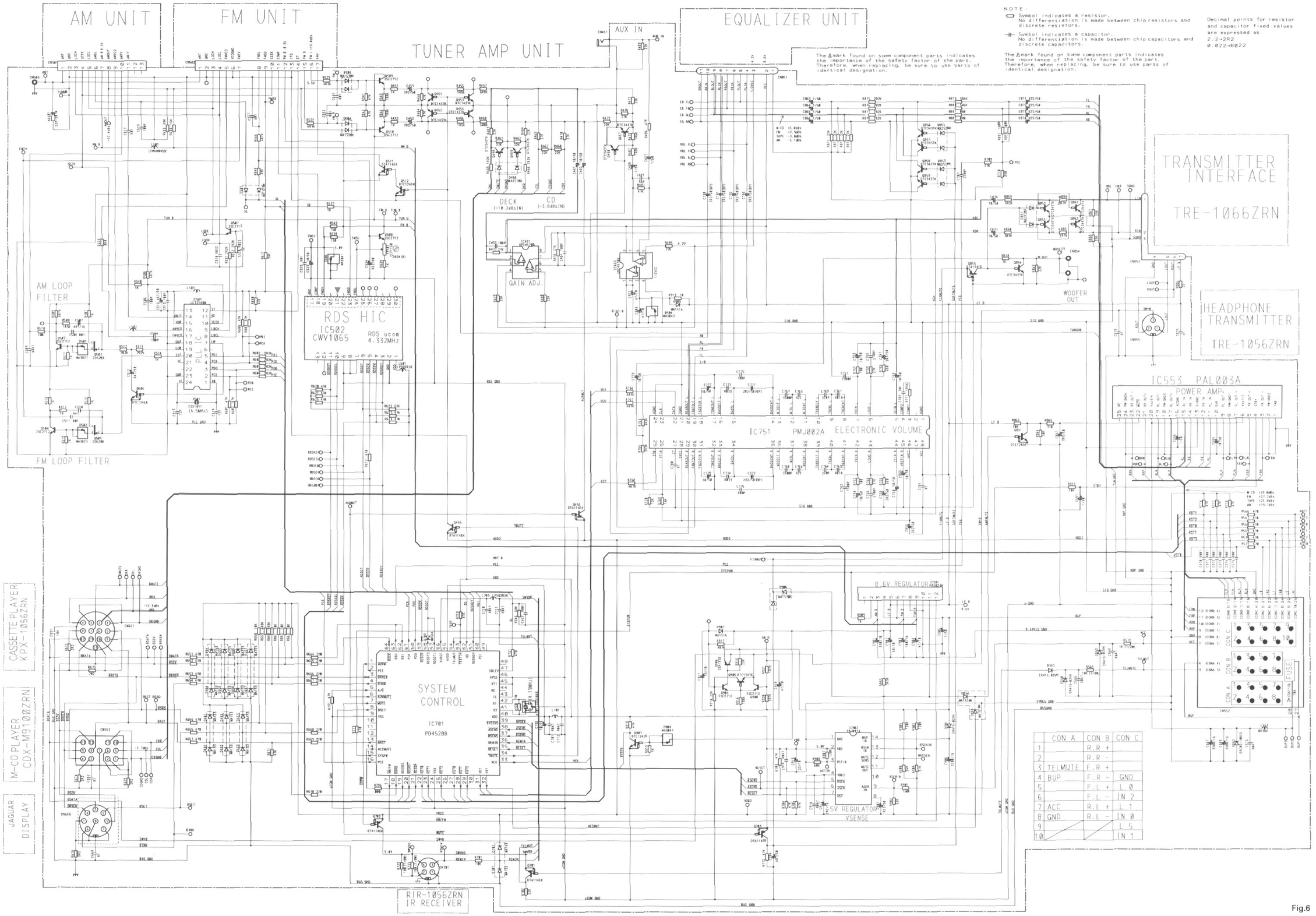


Fig.6

10. CIRCUIT DIAGRAM AND PATTERN

10.1 EQUALIZER UNIT

● **Circuit Diagram**

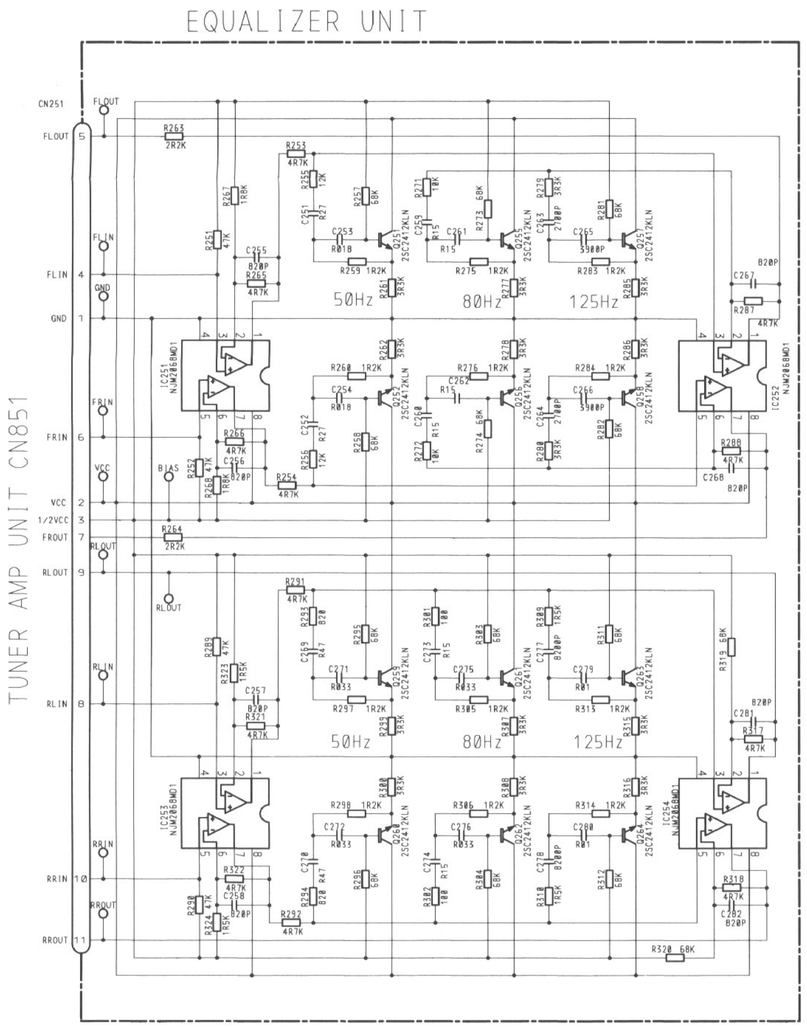
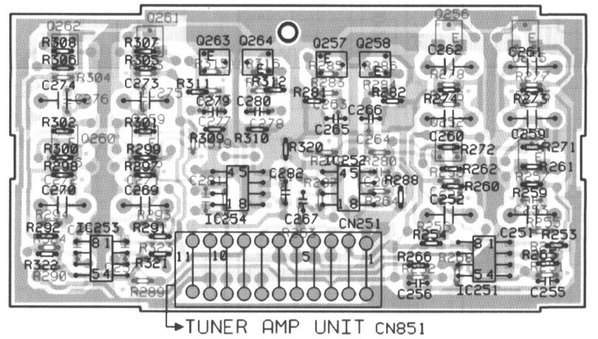


Fig.7

NOTE:
The parts mounted on this PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.

● **Connection Diagram**



ADJ	IC, Q
	Q261 Q256 Q255
	Q263 Q264 Q257
	Q262
	Q258
	Q260 Q259 Q252
	Q251
	IC254 IC252
	IC253 IC251

Fig.8

10.2 FM UNIT

● **Connection Diagram**

MC-Service

IC, Q	Q2	Q1	Q5	Q3	Q71		Q51 Q123 Q171 IC51	
ADJ	VR1			T71	VR51	T51 T52	VR103	VR102 VR101

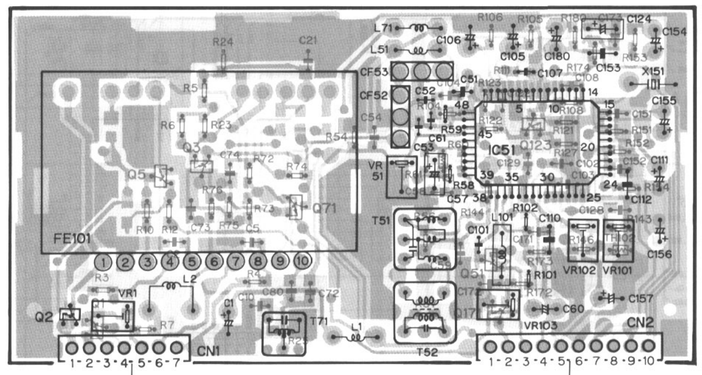


Fig.9

● **Circuit Diagram**

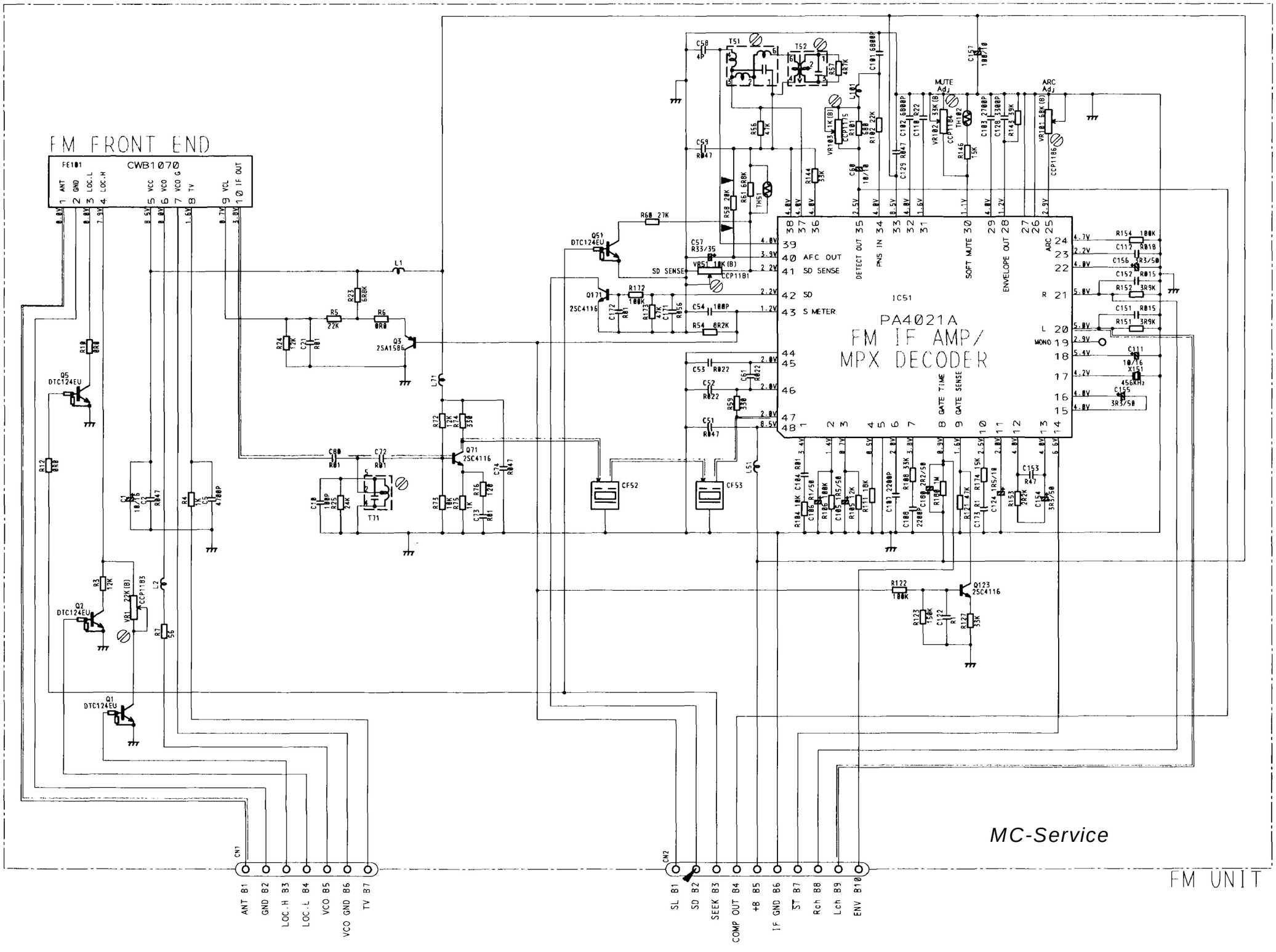
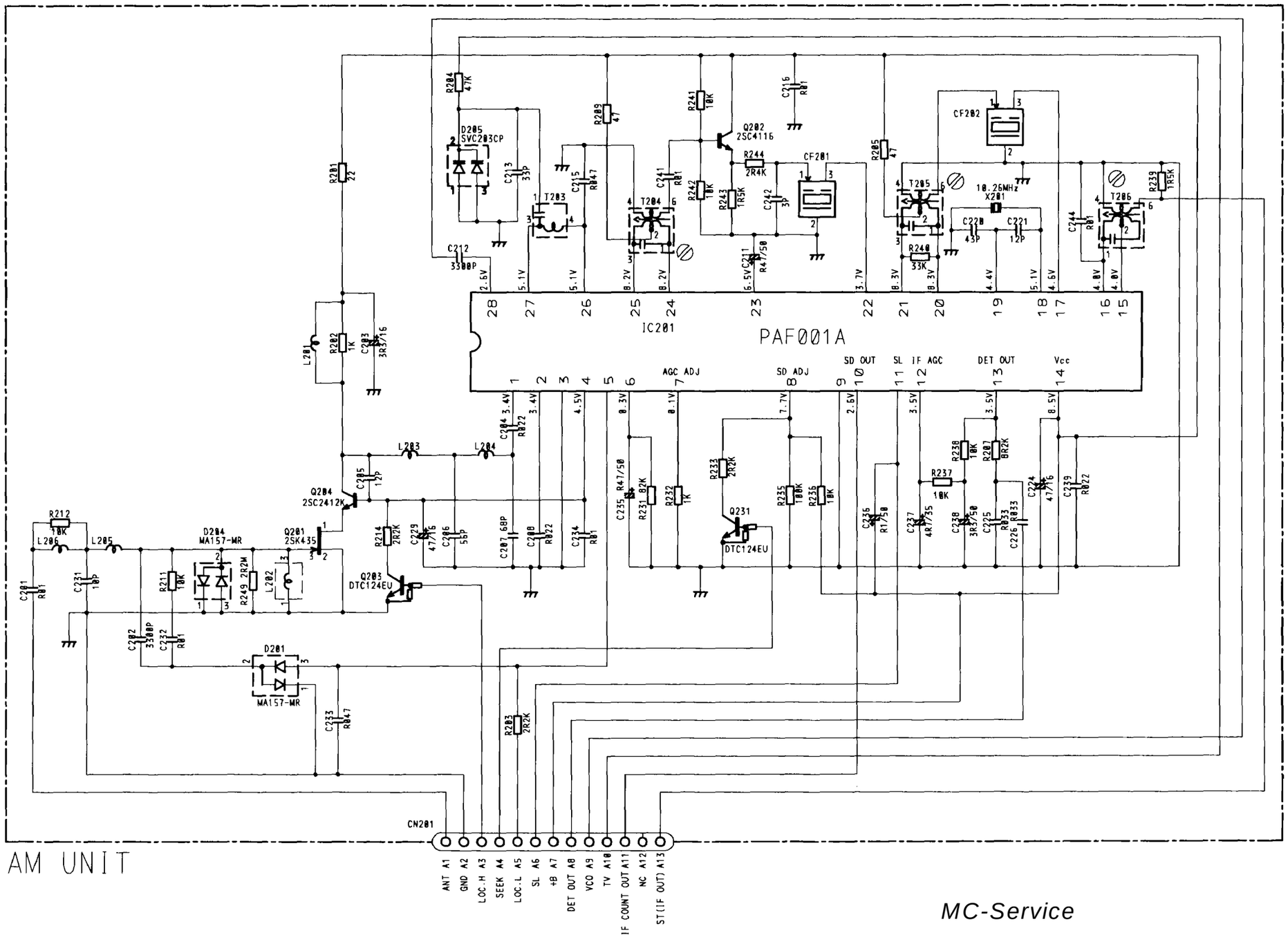


Fig.10

10.3 AM UNIT

● **Circuit Diagram**



MC-Service

Fig.11

● Connection Diagram

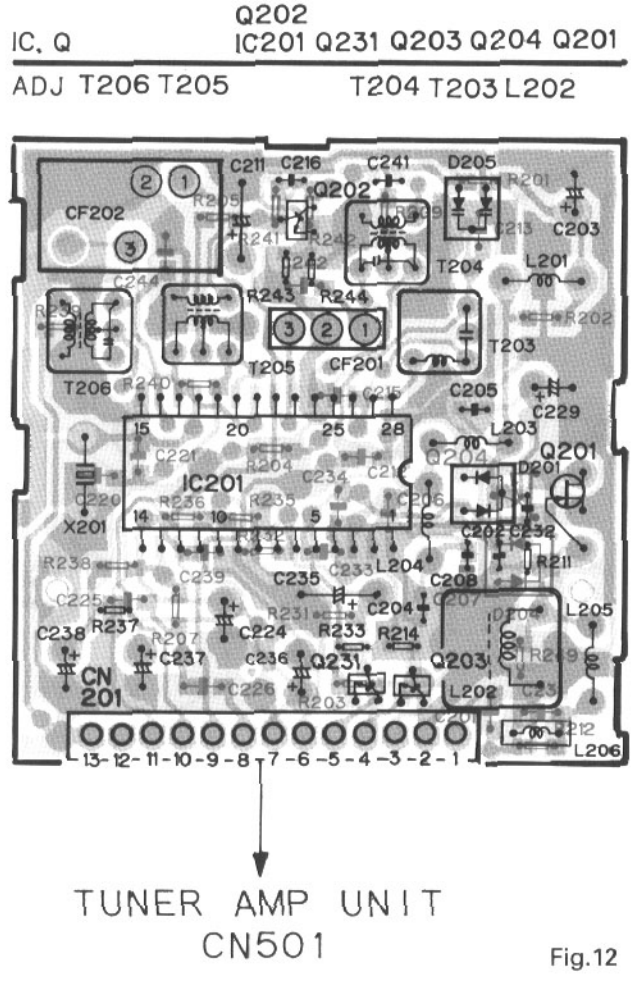


Fig.12

NOTE:
The parts mounted on this PCB include all necessary parts for several destinations. For further information for respective destinations, be sure to check with the schematic diagram.

11. EXPLODED VIEW AND PARTS LIST

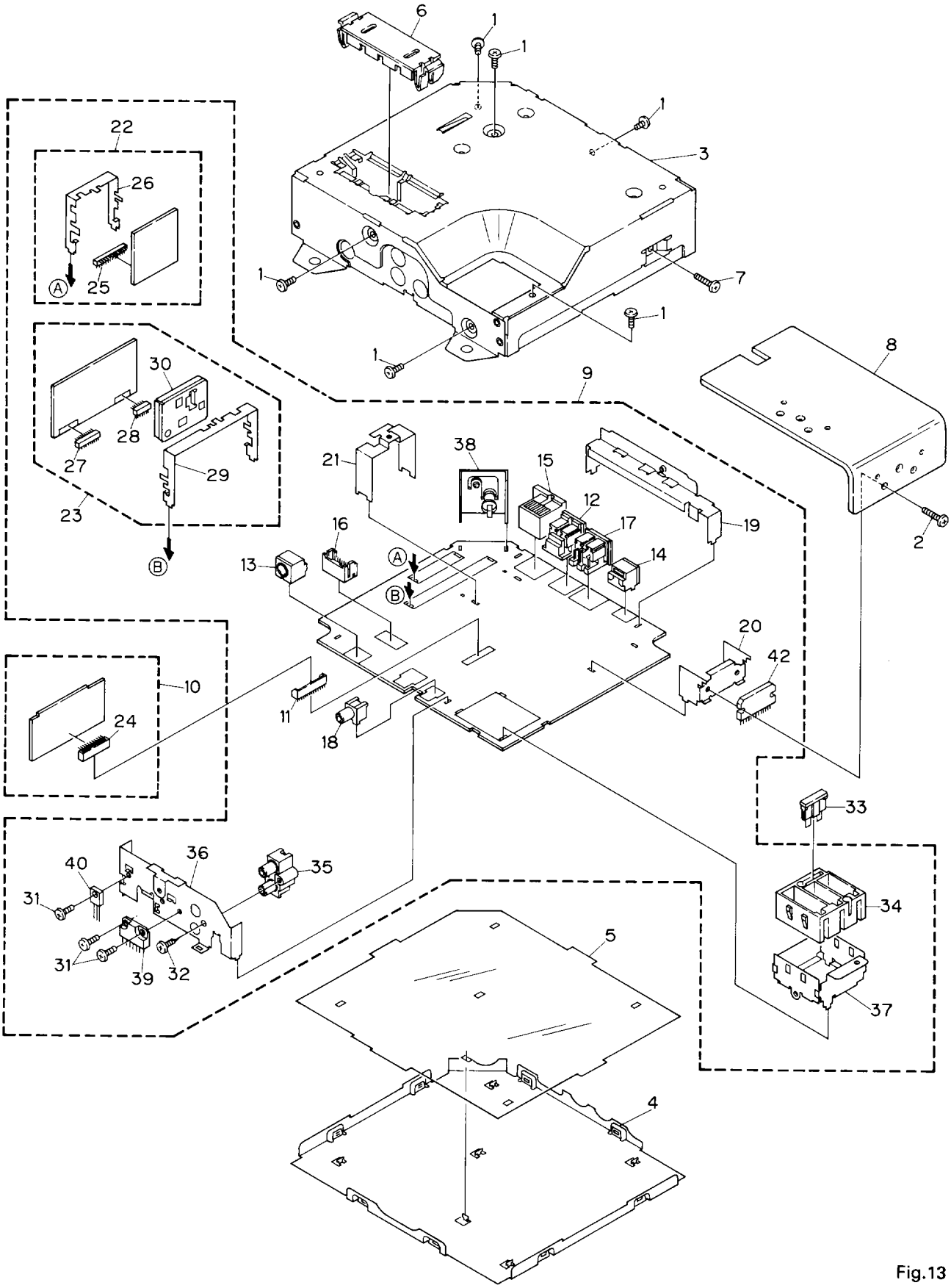


Fig.13

● Parts List

Mark No.	Description	Part No.
1	Screw	BMZ30P060FMC
2	Screw	BMZ30P140FMC
3	Chassis	CNA1570
4	Case	CNB1780
5	Insulator	CNM3864
6	Cover	CNS4018
7	Screw	BMZ30P140FMC
8	Heat Sink	CNC5434
9	Tuner Amp Unit	CWM3726
10	Equalizer Unit	CWM3733
11	Plug(CN851)	CKS-650
12	Connector(CN651)	CKS3180
13	Connector(CN855)	CKS3181
14	Connector(CN701)	CKS3182
15	DIN Socket(CN652)	CKS3185
16	Connector(CN853)	CKS3186
17	DIN Socket(CN653)	CKS3189
18	Pin Jack(CN451)	CKS3200
19	Holder	CNC5105
20	Holder	CNC5107
21	Holder	CNC5433
22	AM Unit	CWA1089
23	FM Unit	CWE1437
24	Connector(CN251)	CKS-669
25	Plug(CN201)	CKS1621

Mark No.	Description	Part No.
26	Holder	CNC4667
27	Plug(CN2)	CKS1607
28	Plug(CN1)	CKS1616
29	Holder	CNC4666
30	FM Front End	CWB1074
31	Screw	BMZ30P060FMC
32	Screw	BPZ26P080FMC
33	Fuse(10A)	CEK1136
34	Connector(CN552)	CKM1088
35	Pin Jack(CN854)	CKS3184
36	Holder	CNC5106
37	Holder	CNC5435
38	Holder Unit	CXA6151
39	IC(IC901)	PA2023A
40	Transistor(Q906)	2SA1358
41	•••••	
42	IC(IC553)	PAL003A

12. PACKING METHOD

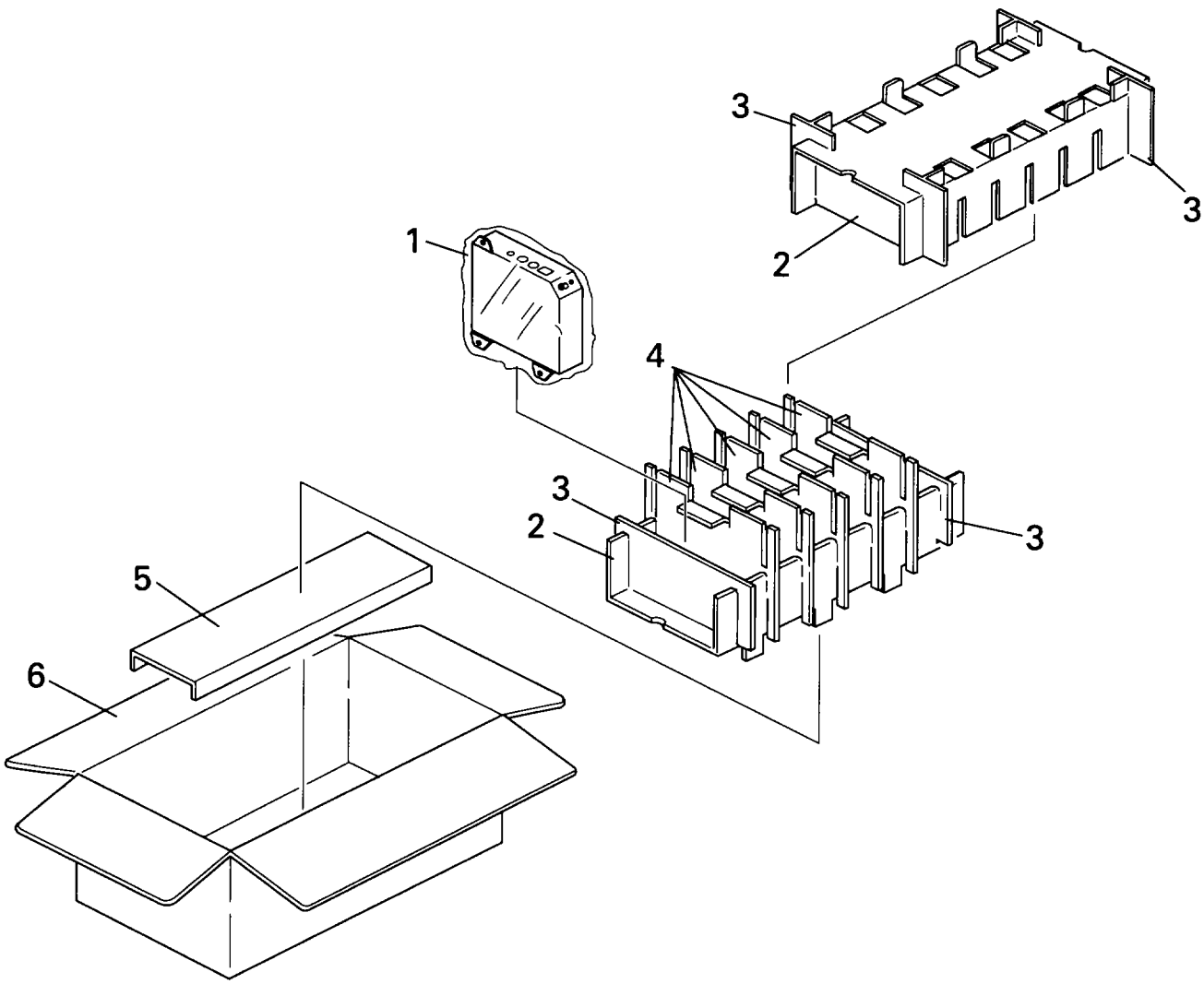


Fig.14

● **Parts List**

∗ : Non Spare Part

Mark	No.	Description	Part No.
	1	Polyethylene Bag	CEG-162
	2	Protector	CHP1723
	3	Protector	CHP1844
	4	Protector	CHP1845
∗	5	Protector	CHP1857
	6	Contain Box	CHL3075